

Solve each system of equations using the substitution method. Show work. Remember our answers should be an ordered pair!!

$$1. \begin{cases} 2x + 4y = -2 \\ y = -2x - 5 \end{cases}$$

$$2. \begin{cases} y = 2x + 3 \\ -2x + 3y = 9 \end{cases}$$

$$3. \begin{cases} y = -2x - 4 \\ 3x + 4y = -6 \end{cases}$$

$$4. \begin{cases} y = -2 \\ 4x + 3y = -10 \end{cases}$$

$$5. \begin{cases} 4x - 2y = 2 \\ x + 2y = 3 \end{cases}$$

Create a system of equations that represents each situation. Be sure to define your variables. Then solve the system using the **SUBSTITUTION METHOD**.

5. The sum of a small number and a large number is 50. The larger number is 10 more than three times the smaller number. Find the two numbers. Let  $x$  be the smaller number and let  $y$  be the bigger number.

Equation 1: \_\_\_\_\_

Equation 2: \_\_\_\_\_

Solution: (     ,     )

**Solve each of the following equations for the indicated variable.**

6.  $6x - 2y = 36$  ; Solve for  $x$

7.  $2x + \frac{1}{4}y = -5$  ; Solve for  $y$

8.  $I = prt$  ; Solve for  $r$

9.  $P = 2L + 2W$  ; Solve for  $W$